4.2.C. 0513020604.

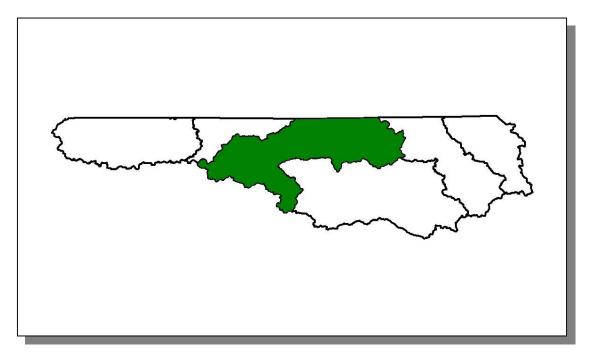


Figure 4-42. Location of Subwatershed 0513020604. All Red River HUC-10 subwatershed boundaries in Tennessee are shown for reference.

4.2.C.i. 051302060401 (Red River).

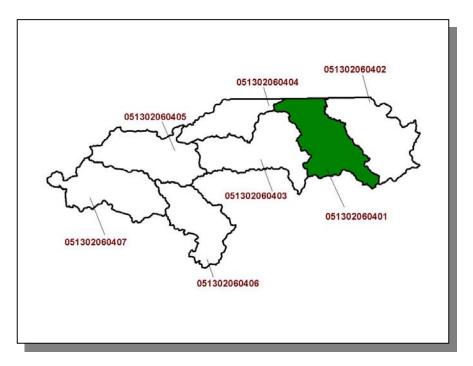


Figure 4-43. Location of Subwatershed 051302060401. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

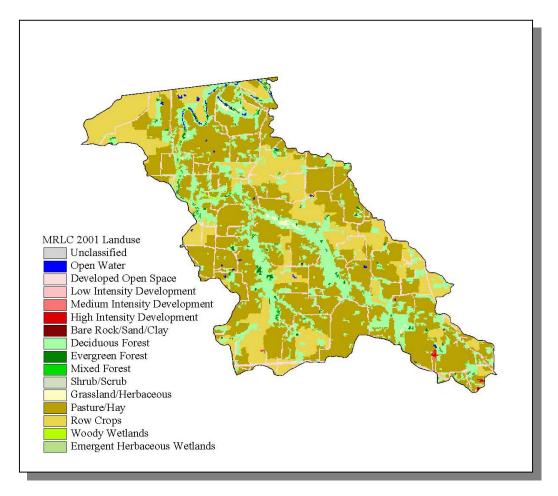


Figure 4-44. Illustration of Land Use Distribution in Subwatershed 051302060401.

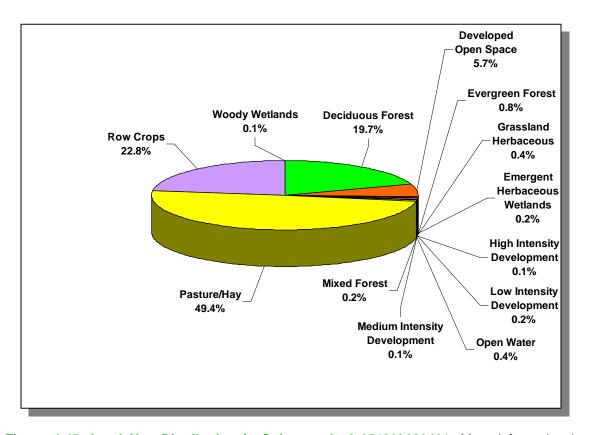


Figure 4-45. Land Use Distribution in Subwatershed 051302060401. More information is provided in Appendix IV.

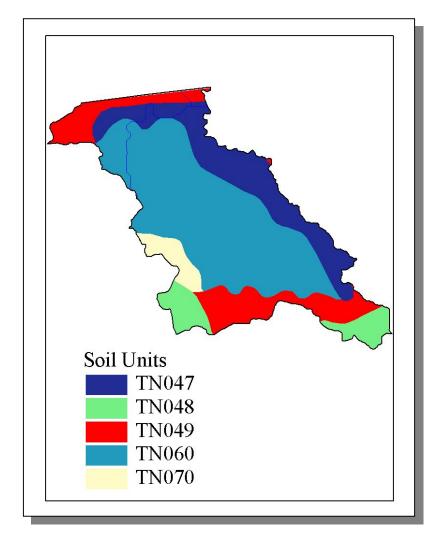


Figure 4-46. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060401.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN047	21.00	С	1.62	5.73	Silty Loam	0.37
TN048	8.00	В	1.38	5.06	Silty Loam	0.42
TN049	0.00	С	1.30	5.94	Silty Loam	0.34
TN060	5.00	C	1.30	5.32	Silty Loam	0.39
TN070	0.00	В	1.38	5.76	Loam	0.33

Table 4-33. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060401. The definition of "Hydrologic Group" is provided in Appendix IV.

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	Р	COUNTY OPULATION	N		ESTIMATED POPULATION IN WATERSHED			
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
Robertson	41,494	51,533	54,433	5.63	2,334	2,899	3,062	31.2

Table 4-34. Population Estimates in Subwatershed 060102060401.

				NUMBER OF HO	DUSING UNITS	
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Cedar Hill	Robertson	363	128	16	105	7
Springfield	Robertson	11,227	4,530	4,436	94	0
Total		11,590	4,658	4,452	199	7

Table 4-35. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060401.



Figure 4-47. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060401. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.i.a. Point Source Contributions.

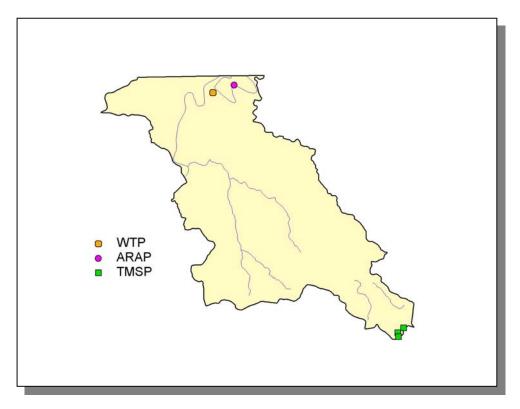


Figure 4-48. Location of Permits Issued in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.

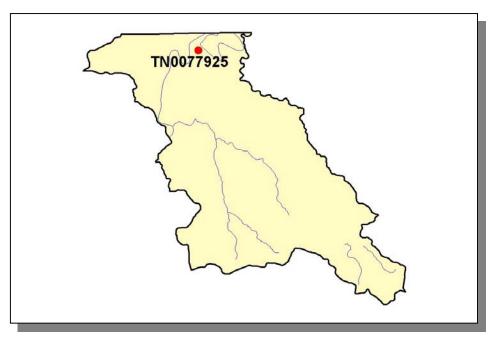


Figure 4-49. Location of Water Treatment Plants in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.

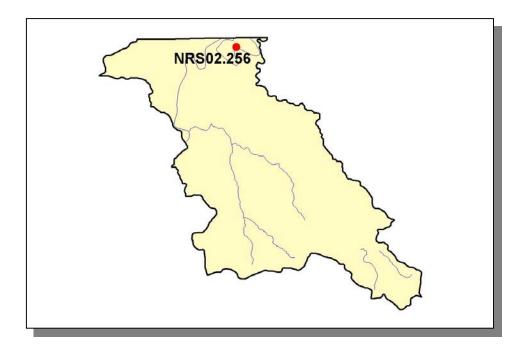


Figure 4-50. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060401. More information is provided in Appendix IV.

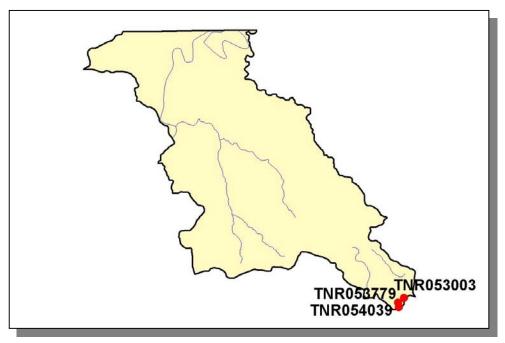


Figure 4-51. Location of TMSP Sites in Subwatershed 051302060401. More information, including the names of facilities, is provided in Appendix IV.

4.2.C.i.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS								
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep			
1,572	3,345	243	<5	488	19			

Table 4-36. Summary of Livestock Count Estimates in Subwatershed 051302060401. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-37. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	NTORY	REMOVAL RATE		
	Forest Land	Timber Land	Growing Stock	Sawtimber	
County	(thousand acres)	(thousand acres) (thousand acres)		(million board feet)	
Robertson	53.0	53.0	2.2	9.7	

Table 4-38. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (Row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-39. Annual Estimated Total Soil Loss in Subwatershed 051302060401.

4.2.C.ii. 051302060402 (Spring Creek).

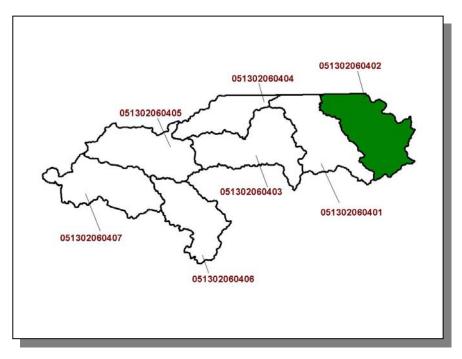


Figure 4-52. Location of Subwatershed 051302060402. All HUC-12 subwatershed boundaries are shown for reference.

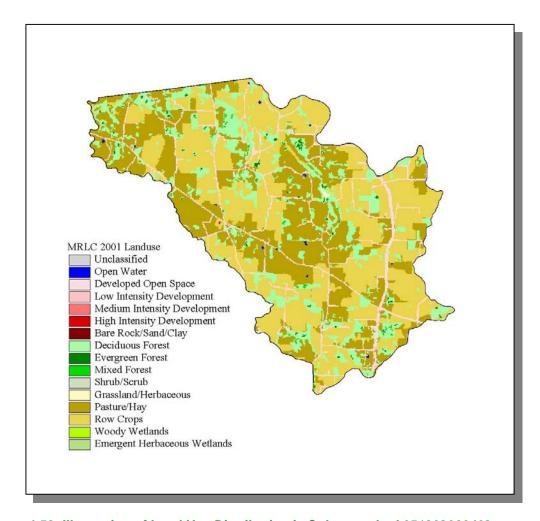


Figure 4-53. Illustration of Land Use Distribution in Subwatershed 051302060402.

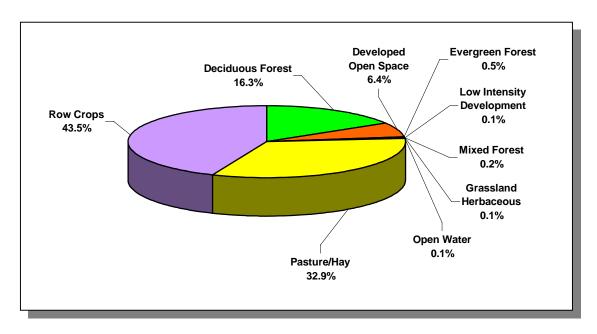


Figure 4-54. Land Use Distribution in Subwatershed 051302060402. More information is provided in Appendix IV.

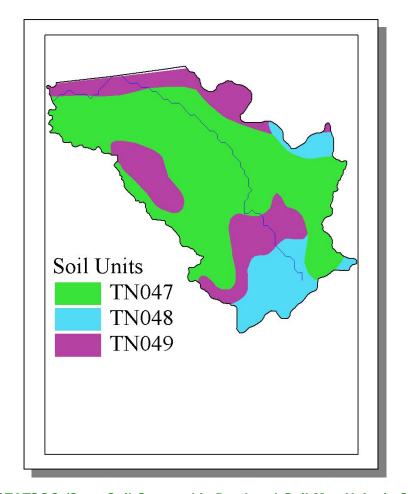


Figure 4-55. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060402.

STATSGO	PERCENT	HYDROLOGIC	PERMEABILITY	SOIL	ESTIMATED	SOIL
MAP UNIT ID	HYDRIC	GROUP	(in/hour)	pН	SOIL TEXTURE	ERODIBILITY
TN047	21.00	С	1.62	5.73	Silty Loam	0.37
TN048	8.00	В	1.38	5.06	Silty Loam	0.42
TN049	0.00	С	1.30	5.94	Silty Loam	0.34

Table 4-40. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060402. The definition of "Hydrologic Group" is provided in Appendix IV.

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	Р	COUNTY OPULATION)N		ESTIMATED POPULATION IN WATERSHED			
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
Robertson	41,494	51,533	54,433	5.95	2,467	3,064	3,237	31.2

Table 4-41. Population Estimates in Subwatershed 051302060402.

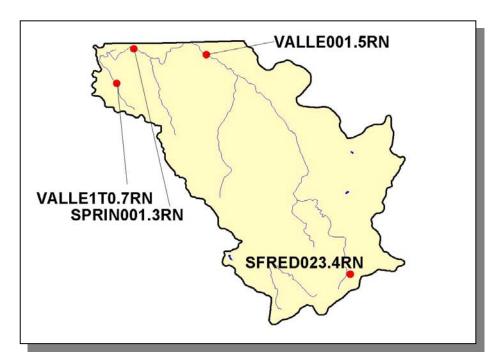


Figure 4-56. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060402. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.ii.a. Point Source Contributions.

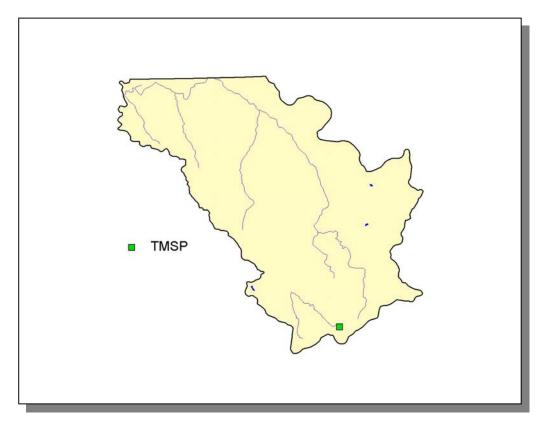


Figure 4-57. Location of Permits Issued in Subwatershed 051302060402. More information, including the names of facilities, is provided in Appendix IV.

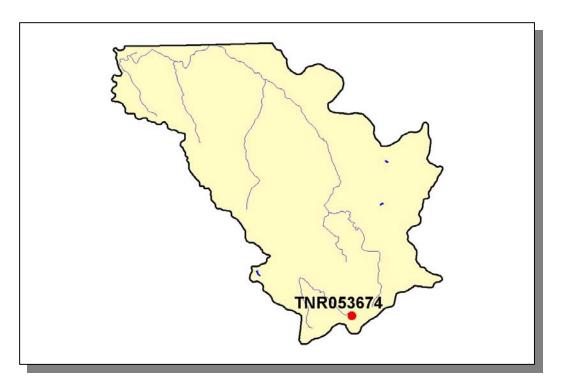


Figure 4-58. Location of TMSP Sites in Subwatershed 051302060402. More information, including the names of facilities, is provided in Appendix IV.

4.2.C.ii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS								
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep			
1,364	2.903	211	<5	423	17			

Table 4-42. Summary of Livestock Count Estimates in Subwatershed 051302060402. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS						
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep
Robertson	22,502	47,887	3,478	31	6,982	279

Table 4-43. Summary of Livestock Count Estimates in Robertson County. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	ITORY	REMOVAL RATE		
	Forest Land	Timber Land	Growing Stock	Sawtimber	
County	(thousand acres)	(thousand acres)	(million cubic feet)	(million board feet)	
Robertson	53.0	53.0	2.2	9.7	

Table 4-44. Forest Acreage and Annual Removal Rates (1987-1994) in Robertson County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.67
Grass (Hayland)	0.37
Legumes, Grass (Hayland)	0.53
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.42
Corn (Row Crops)	5.15
Soybeans (Row Crops)	10.03
Tobacco (row Crops)	11.87
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.36
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.95

Table 4-45. Annual Estimated Total Soil Loss in Subwatershed 051302060402.

4.2.C.iii. 051302060403 (Red River).

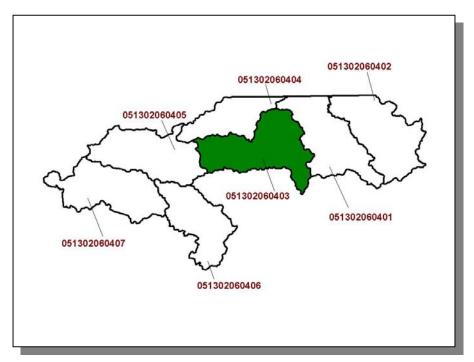


Figure 4-59. Location of Subwatershed 051302060403. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

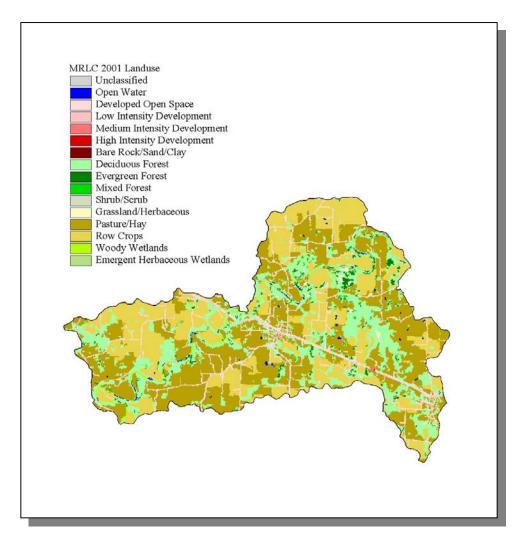


Figure 4-60. Illustration of Land Use Distribution in Subwatershed 051302060403.

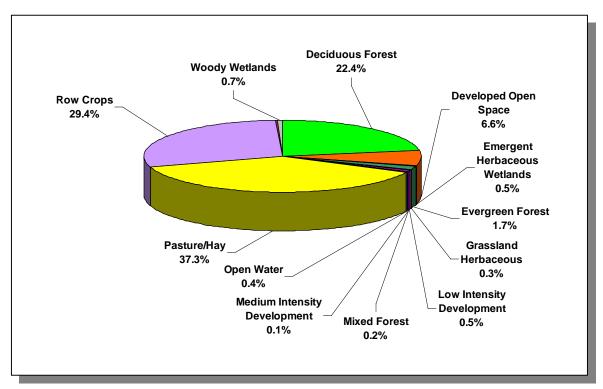


Figure 4-61. Land Use Distribution in Subwatershed 051302060403. More information is provided in Appendix IV.

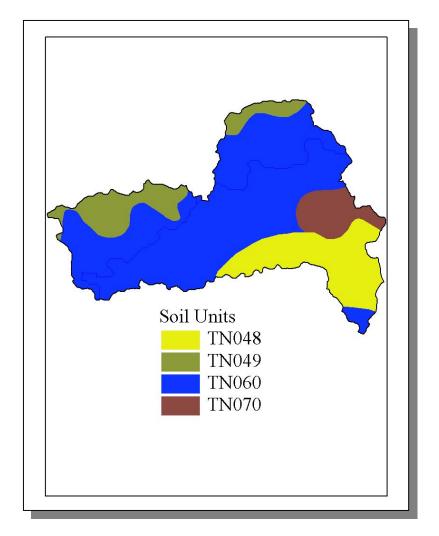


Figure 4-62. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060403.

STATSGO	PERCENT	HYDROLOGIC	PERMEABILITY	SOIL	ESTIMATED	SOIL
MAP UNIT ID	HYDRIC	GROUP	(in/hour)	рН	SOIL TEXTURE	ERODIBILITY
TN048	8.00	В	1.38	5.06	Silty Loam	0.42
TN049	0.00	С	1.30	5.94	Silty Loam	0.34
TN060	5.00	С	1.30	5.32	Silty Loam	0.39
TN070	0.00	В	1.38	5.76	Loam	0.33

Table 4-46. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060403. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION					IATED PO N WATER		
				Portion of				% Change
County	1990	1997	2000	Watershed (%)	1990	1997	2000	(1990-2000)
Montgomery	100,498	124,369	134,768	0.72	722	894	968	34.1
Robertson	41,494	51,533	54,433	5.49	2,277	2,828	2,988	31.2
Total	141,992	175,902	189,201		2,999	3,722	3,956	31.9

Table 4-47. Population Estimates in Subwatershed 051302060403.

	_	_		NUMBER OF HO	DUSING UNITS	
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Adams	Robertson	571	241	18	215	8
Cedar Hill	Robertson	363	128	16	105	7
Total		934	369	34	320	15

Table 4-48. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060403.

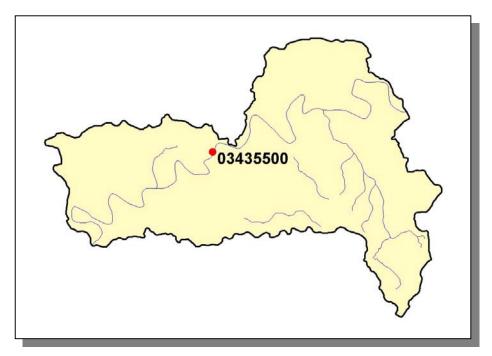


Figure 4-63. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060403. More information is provided in Appendix IV.

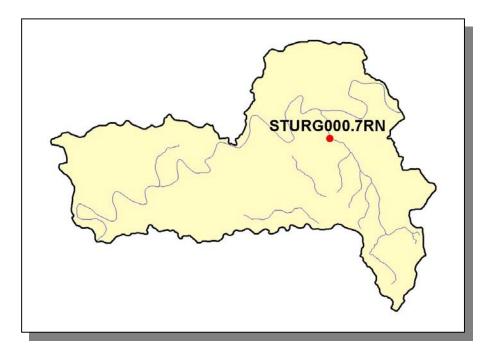


Figure 4-64. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060403. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.iii.a. Point Source Contributions.

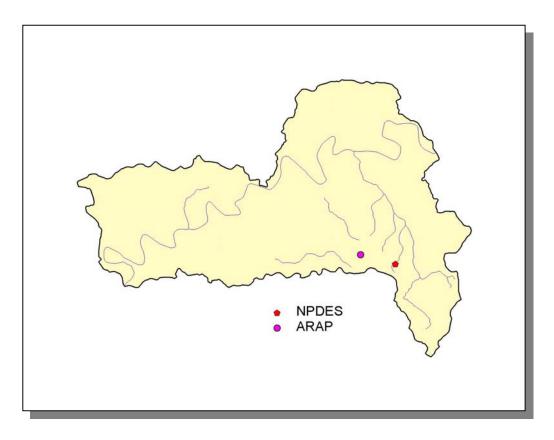


Figure 4-65. Location of Permits Issued in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.

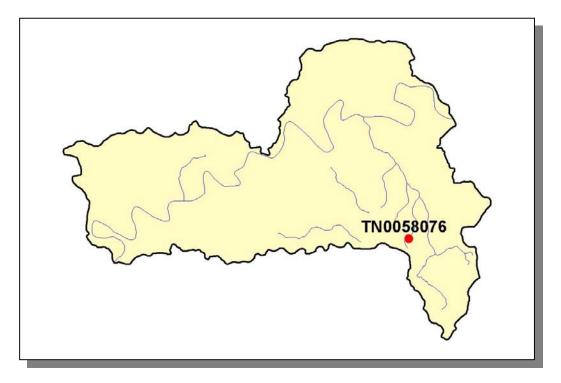


Figure 4-66. Location of Active NPDES Sites in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.



Figure 4-67. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060403. More information is provided in Appendix IV.

4.2.C.iii.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060403:

TN0058076 (Jo Byrnes School) discharges to an unnamed tributary
@ RM 1.1 to Sturgeon Creek @ RM 2.4 Branch Creek @ RM 2.2

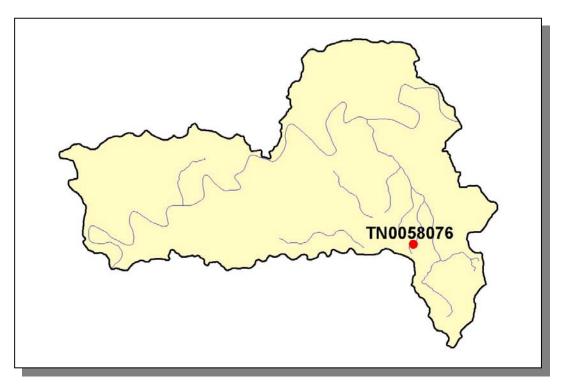


Figure 4-68. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060403. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	QDESIGN
TN0058076				0	0.025

Table 4-49. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403. Data are in million gallons per day (MGD). Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

					SETTLEABLE			
PERMIT #	CBOD ₅	NH ₃	TSS	TRC	SOLIDS	DO	рН	FLOW
TN0058076	Х	Х	Х	Χ	Х	Χ	Х	Χ

Table 4-50. Parameters Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); NH₃, Ammonia; TSS, Total Suspended Solids; TRC, Total Residual Chlorine; DO, Dissolved Oxygen.

PERMIT #	FECAL COLIFORM
TN0058076	X

Table 4-51. Bacteria Monitored for Daily Maximum Limits for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060403.

4.2.C.iii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS								
Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep								
1,714	3,583	230	<5	460	19			

Table 4-52. Summary of Livestock Count Estimates in Subwatershed 051302060403. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS									
County Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep									
Montgomery	16,051	30,959	760	913	1,408	107			
Robertson	22,502	47,887	3,478	31	6,982	279			

Table 4-53. Summary of Livestock Count Estimates in Montgomery and Robertson Counties. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	ITORY	REMOVAL RATE		
	Forest Land Timber Land		Growing Stock	Sawtimber	
County	(thousand acres) (thousand acres)		(million cubic feet)	(million board feet)	
Montgomery					
Robertson	53.0	53.0	2.2	9.7	

Table 4-54. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.64
Grass (Hayland)	0.36
Legumes, Grass (Hayland)	0.51
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.44
Corn (Row Crops)	5.52
Soybeans (Row Crops)	9.29
Tobacco (Row Crops)	13.19
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.37
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.83

Table 4-55. Annual Estimated Total Soil Loss in Subwatershed 051302060403.

4.2.C.iv. 051302060404 (Elk Fork Creek).

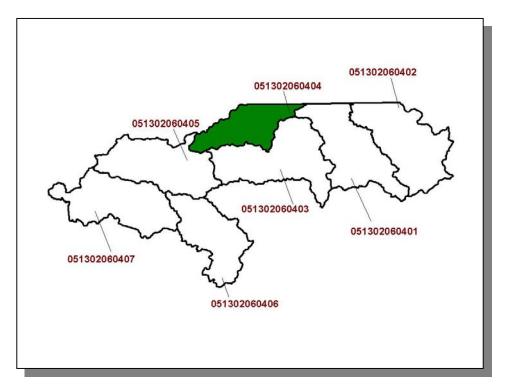


Figure 4-69. Location of Subwatershed 051302060404. All HUC-12 subwatershed boundaries are shown for reference.

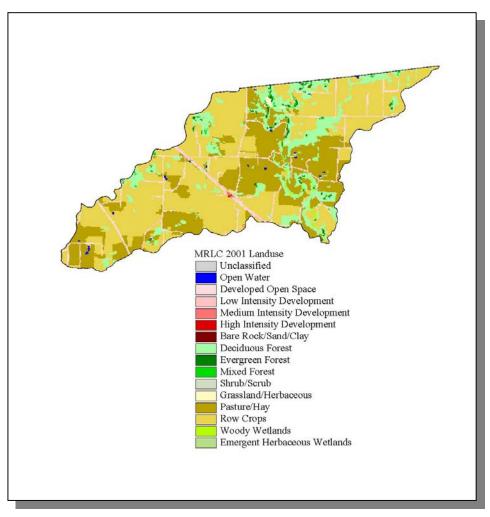


Figure 4-70. Illustration of Land Use Distribution in Subwatershed 051302060404.

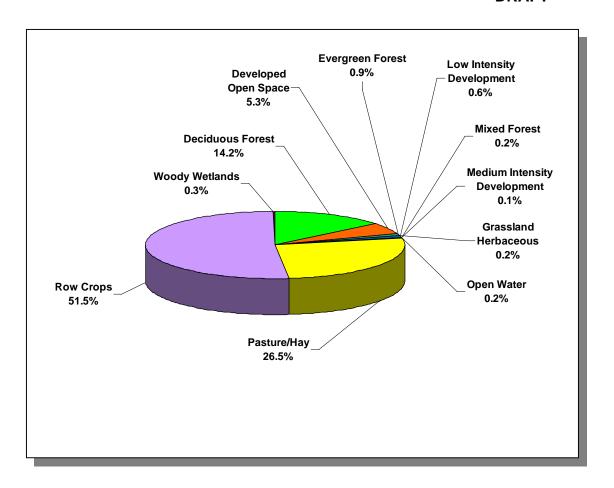


Figure 4-71. Land Use Distribution in Subwatershed 051302060404. More information is provided in Appendix IV.

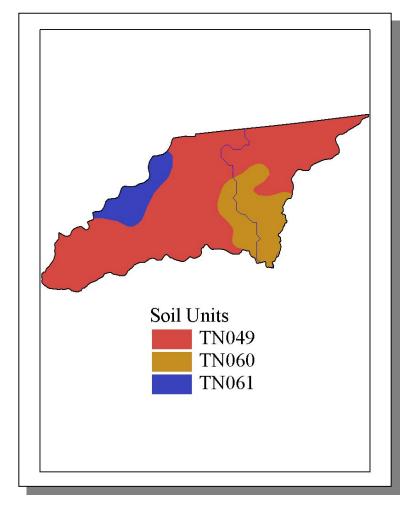


Figure 4-72. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060404.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	С	1.30	5.94	Silty Loam	0.34
TN060	5.00	С	1.30	5.32	Silty Loam	0.39
TN061	50.00	В	1.30	5.09	Silty Loam	0.42

Table 4-56. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060404. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION					IATED PO N WATER		
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
-								
Montgomery	100,498	124,369	134,768	1.25	1,252	1,549	1,679	34.1
Robertson	41,494	51,533	54,433	2.02	836	1,039	1,097	31.2
Total	141,992	175,902	189,201		2,088	2,588	2,776	33.0

Table 4-57. Population Estimates in Subwatershed 051302060404.



Figure 4-73. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060404. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.iv.a. Point Source Contributions.

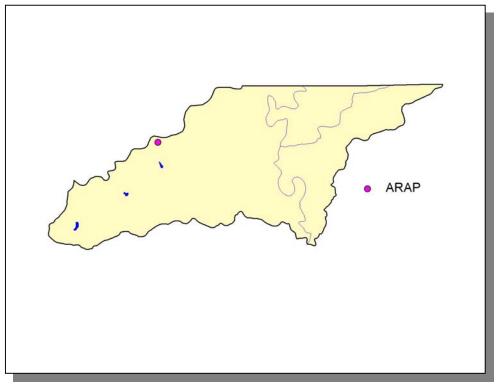


Figure 4-74. Location of Permits Issued in Subwatershed 051302060404. More information, including the names of facilities, is provided in Appendix IV.

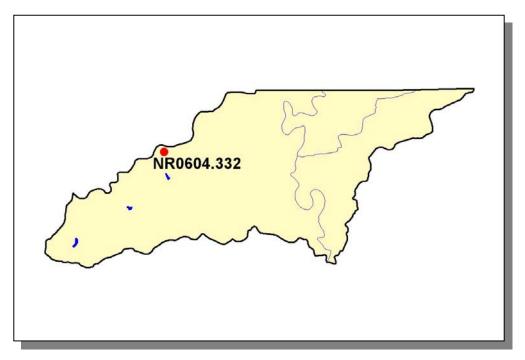


Figure 4-75. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060404. More information is provided in Appendix IV.

4.2.C.iv.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS										
Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep										
1,125	1,125 2,2271 107 <5 211 10									

Table 4-58. Summary of Livestock Count Estimates in Subwatershed 051302060404. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS									
County Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep									
Montgomery	16,051	30,959	760	913	1,408	107			
Robertson	22,502	47,887	3,478	31	6,982	279			

Table 4-59. Summary of Livestock Count Estimates in Montgomery and Robertson Counties. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	ITORY	REMOVAL RATE		
	Forest Land Timber Land		Growing Stock	Sawtimber	
County	(thousand acres)	thousand acres) (thousand acres)		(million board feet)	
Montgomery					
Robertson	53.0	53.0	2.2	9.7	

Table 4-60. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.58
Grass (Hayland)	0.34
Legumes, Grass (Hayland)	0.48
Legumes (Hayland)	0.73
Grass, Forbs, Legumes (Mixed Pasture)	0.47
Corn (Row Crops)	6.33
Soybeans (Row Crops)	7.67
Tobacco (Row Crops)	16.11
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	9.59
Conservation Reserve Program Lands	0.38
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.58

Table 4-61. Annual Estimated Total Soil Loss in Subwatershed 051302060404.

4.2.C.v. 051302060405 (Red River).

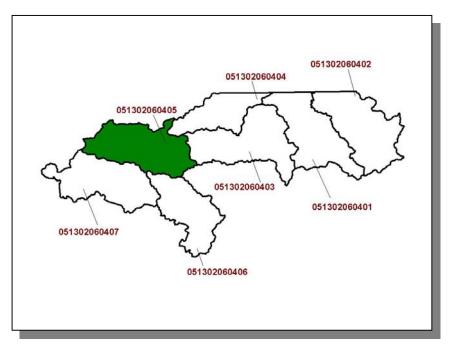


Figure 4-76. Location of Subwatershed 051302060405. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

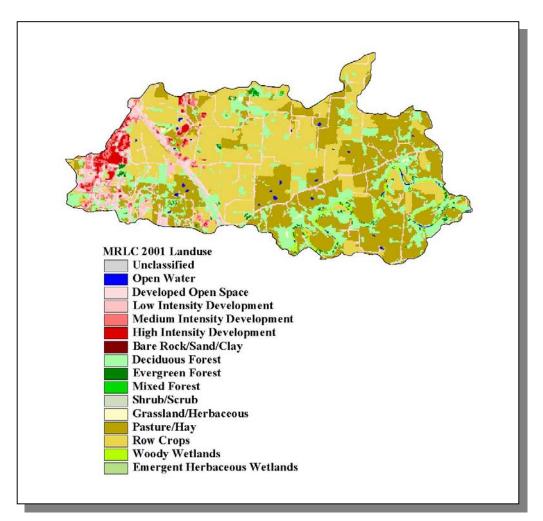


Figure 4-77. Illustration of Land Use Distribution in Subwatershed 051302060405.

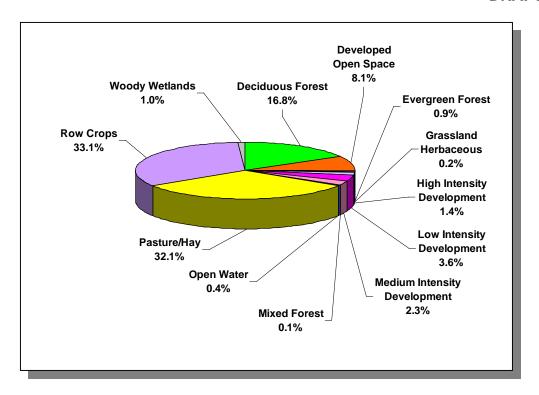


Figure 4-78. Land Use Distribution in Subwatershed 051302060405. More information is provided in Appendix IV.

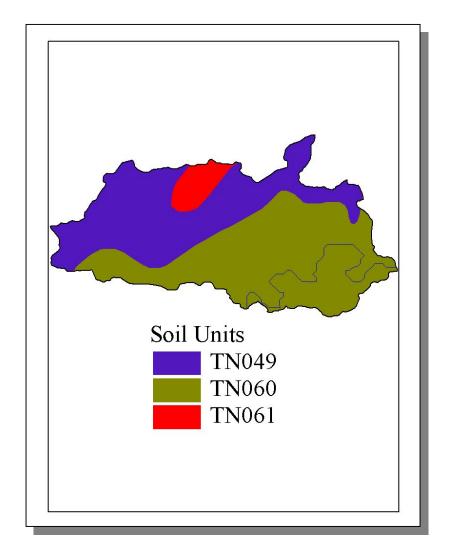


Figure 4-79. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060405.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN049	0.00	С	1.30	5.94	Silty Loam	0.34
TN060	5.00	С	1.30	5.32	Silty Loam	0.39
TN061	50.00	В	1.30	5.09	Silty Loam	0.42

Table 4-62. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060405. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION					N WATER	PULATION SHED	
Country	1000	1007	2000	Portion of	1000	1007	2000	% Change
County	1990 1997 2000		Watershed (%)	1990	1997	2000	(1990-2000)	
Montgomery	100,498	124,369	134,768	5.09	5,117	6,333	6,862	34.1

Table 4-63. Population Estimates in Subwatershed 051302060405.

				NUMBER OF HO	USING UNITS	
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76

Table 4-64. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060405.



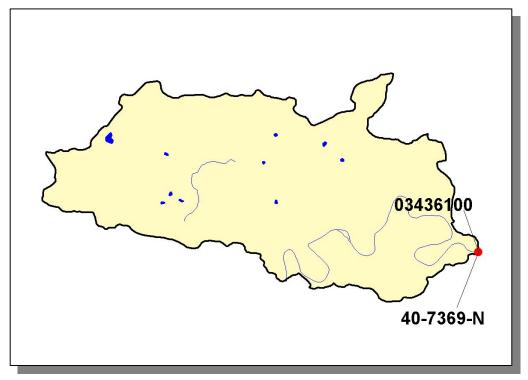


Figure 4-80. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060405. More information is provided in Appendix IV.

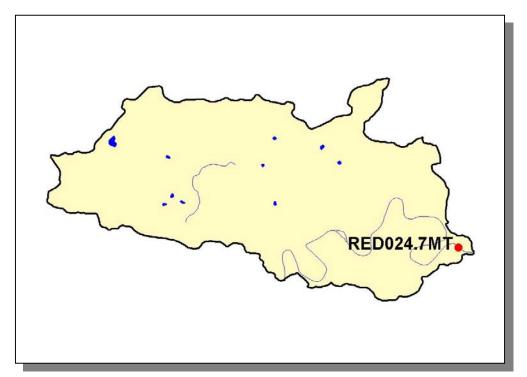


Figure 4-81. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060405. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.v.a. Point Source Contributions.

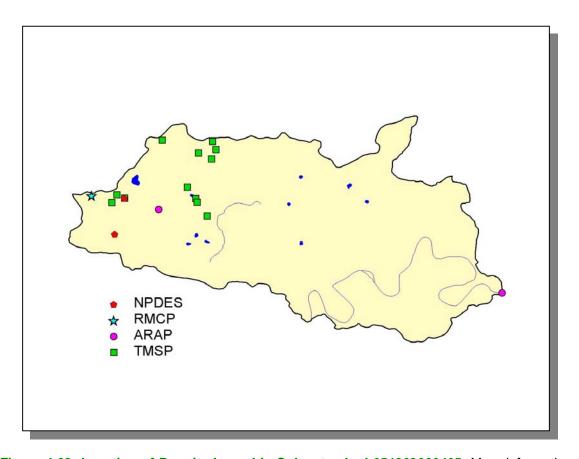


Figure 4-82. Location of Permits Issued in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

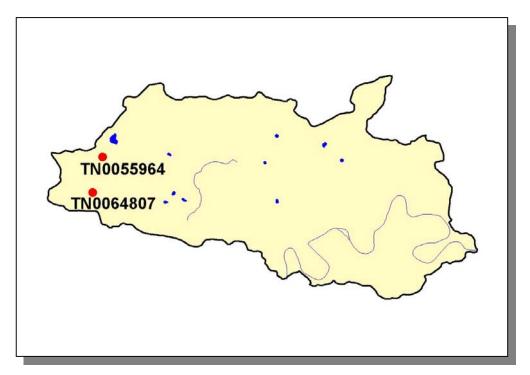


Figure 4-83. Location of Active NPDES Sites in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

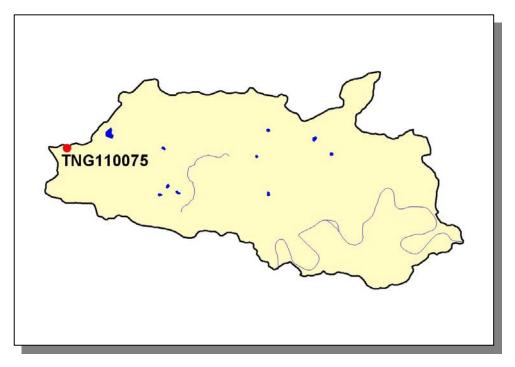


Figure 4-84. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060405. More information is provided in Appendix IV.

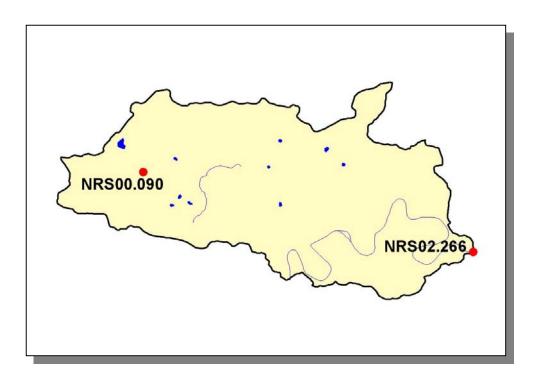


Figure 4-85. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060405. More information is provided in Appendix IV.

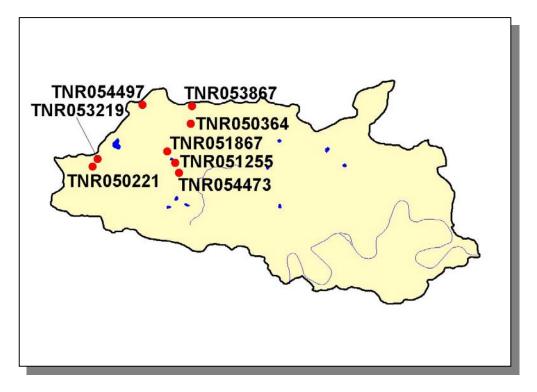


Figure 4-86. Location of TMSP Sites in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

4.2.C.v.a.i. Dischargers to Water Bodies Listed on the 2004 303(d) List

There is one NPDES facility discharging to water bodies listed on the 2004 303(d) list in Subwatershed 051302060405:

 TN0055964 (Trane Company) discharges to an unnamed tributary to a sink hole and to a wet weather conveyance to Gibbs Creek

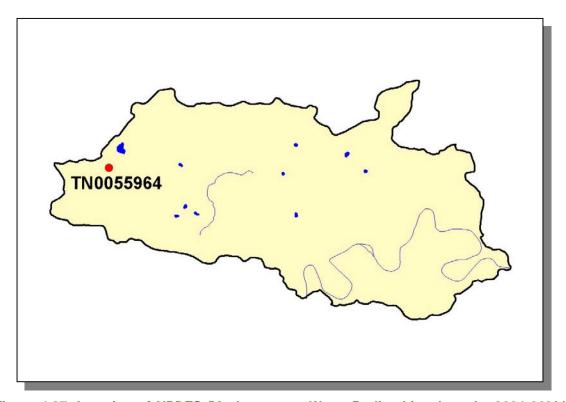


Figure 4-87. Location of NPDES Dischargers to Water Bodies Listed on the 2004 303(d) List in Subwatershed 051302060405. More information, including the names of facilities, is provided in Appendix IV.

PERMIT #	1Q10	3Q10	7Q10	3Q20	30Q5	QDESIGN
TN0055964			0.0		0.0	N/A

Table 4-65. Receiving Stream Flow Information for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060405. Data are in million gallons per day (MGD). N/A, Not Applicable. Data were obtained from the USGS publication Flow Duration and Low Flows of Tennessee Streams Through 1992 or from permit files.

PERMIT#	OIL and GREASE	Fe	Cu	Zn	рН	FLOW
TN0055964	X	Χ	Χ	Χ	Χ	X

Table 4-66. Stormwater Monitoring Requirements for NPDES Dischargers to Waterbodies Listed on the 2004 303(d) List in Subwatershed 051302060405. WET, Whole Effluent Toxicity; CBOD₅, Carbonaceous Biochemical Oxygen Demand (5-Day); Fe, Iron; Cu, Copper; TSS, Total Suspended Solids.

4.2.C.v.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS											
Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep											
1,898	1,898 3,661 90 <5 166 13										

Table 4-67. Summary of Livestock Count Estimates in Subwatershed 051302060405.According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS									
County Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep									
Montgomery	Montgomery 16,051 30,959 760 913 1,408 107								

Table 4-68. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	ITORY	REMOVAL RATE		
County	Forest Land (thousand acres) Timber Land (thousand acres)		Growing Stock (million cubic feet)	Sawtimber (million board feet)	
Montgomery					

Table 4-69. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-70. Annual Estimated Total Soil Loss in Subwatershed 051302060405.

4.2.C.vi. 051302060406 (Passenger Creek).

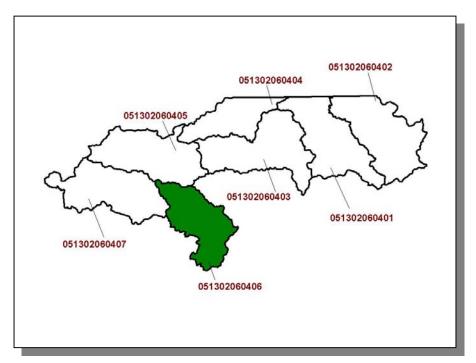


Figure 4-88. Location of Subwatershed 051302060406. All HUC-12 subwatershed boundaries are shown for reference.

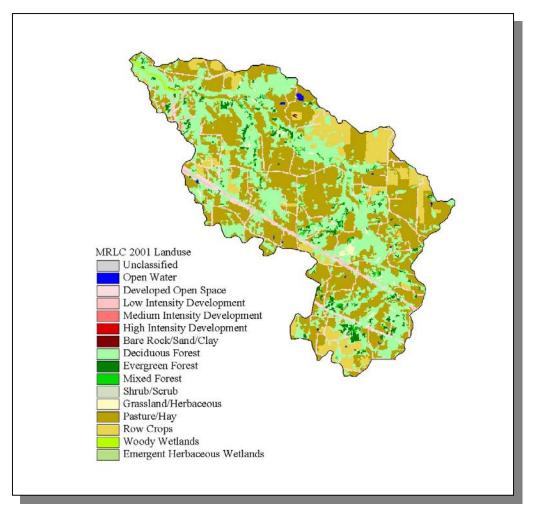


Figure 4-89. Illustration of Land Use Distribution in Subwatershed 051302060406.

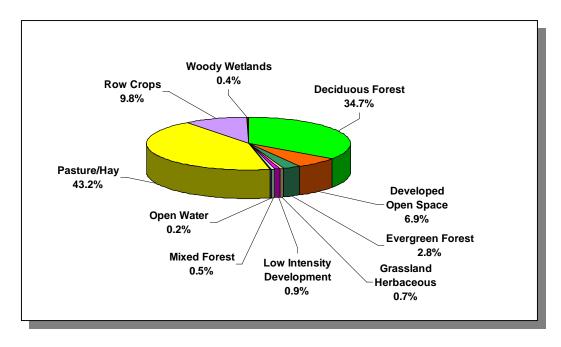


Figure 4-90. Land Use Distribution in Subwatershed 051302060406. More information is provided in Appendix IV.

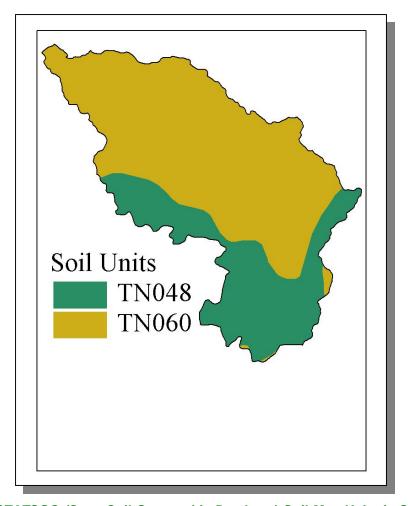


Figure 4-91. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060406.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN048	8.00	В	1.38	5.06	Silty Loam	0.42
TN060	5.00	С	1.30	5.32	Silty Loam	0.39

Table 4-71. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060406. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION					IATED PO N WATER	PULATION SHED	
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
Cheatham	27,140	34,402	35,912	0.37	100	127	132	32.0
Montgomery	100,498	124,369	134,768	3.47	3,492	4,321	4,682	34.1
Robertson	41,494	51,533	54,433	0.37	152	189	200	31.6
Total	169,132	210,304	225,113		3,644	4,637	5,014	33.9

Table 4-72. Population Estimates in Subwatershed 051302060406.

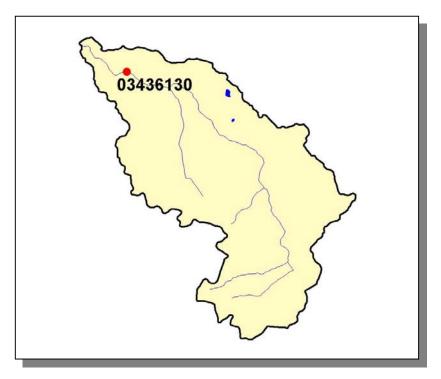


Figure 4-92. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060406. More information is provided in Appendix IV.

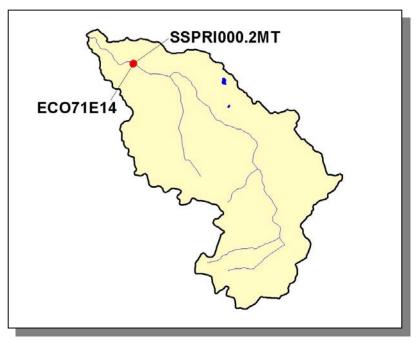


Figure 4-93. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060406. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.vi.a. Point Source Contributions.

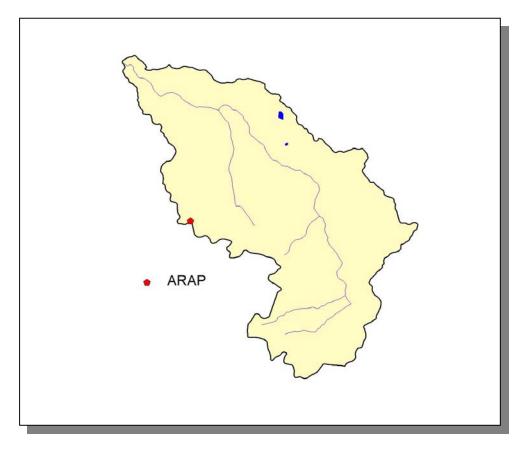


Figure 4-94. Location of Permits Issued in Subwatershed 051302060406. More information, including the names of facilities, is provided in Appendix IV.

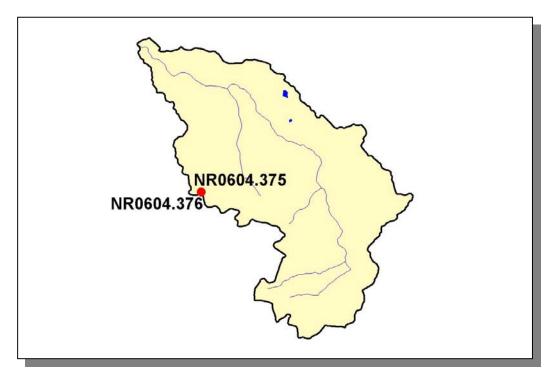


Figure 4-95. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060406. More information is provided in Appendix IV.

4.2.C.vi.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS										
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep					
1,225	2,633	69	<5	156	9					

Table 4-73. Summary of Livestock Count Estimates in Subwatershed 051302060406.According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS										
County	Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Hogs	Sheep				
Cheatham	0	11,429	0	121	1,183	0				
Montgomery	16,051	30,959	760	913	1,408	107				
Robertson	22,502	47,887	3,478	31	6,982	279				

Table 4-74. Summary of Livestock Count Estimates in Cheatham, Montgomery, and Robertson Counties. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVEN	NTORY	REMOVA	AL RATE
	Forest Land Timber Land		Growing Stock	Sawtimber
County	(thousand acres) (thousand acres		(million cubic feet)	(million board feet)
Cheatham	118.2	118.2	2.3	8.4
Montgomery				
Robertson	53.0	53.0	2.2	9.7

Table 4-75. Forest Acreage and Annual Removal Rates (1987-1994) in Cheatham, Montgomery, and Robertson Counties.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.48
Grass (Hayland)	0.30
Legumes, Grass (Hayland)	0.41
Legumes (Hayland)	0.60
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	7.83
Soybeans (Row Crops)	5.00
Tobacco (Row Crops)	21.35
Wheat (Close-Grown Cropland)	1.68
Other Cropland not Planted	6.11
Conservation Reserve Program Lands	0.41
Other Land in Farms	0.27
Farmsteads and Ranch Headquarters	0.12

Table 4-76. Annual Estimated Total Soil Loss in Subwatershed 051302060406.

4.2.C.vii. 051302060407 (Red River).

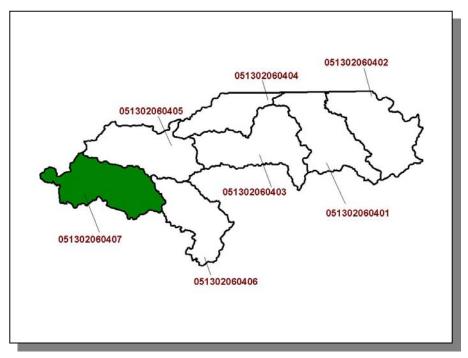


Figure 4-96. Location of Subwatershed 051302060407. All Red River HUC-12 subwatershed boundaries in Tennessee are shown for reference.

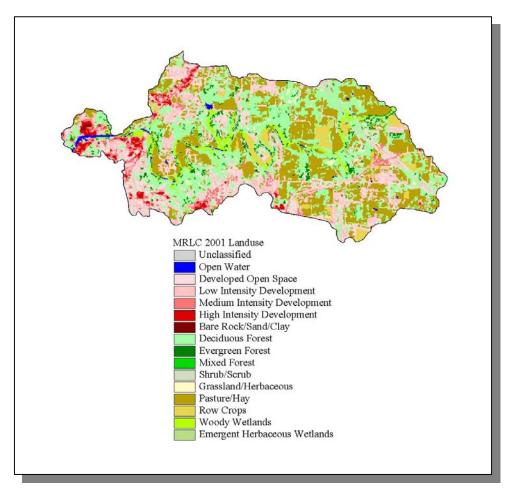


Figure 4-97. Illustration of Land Use Distribution in Subwatershed 051302060407.

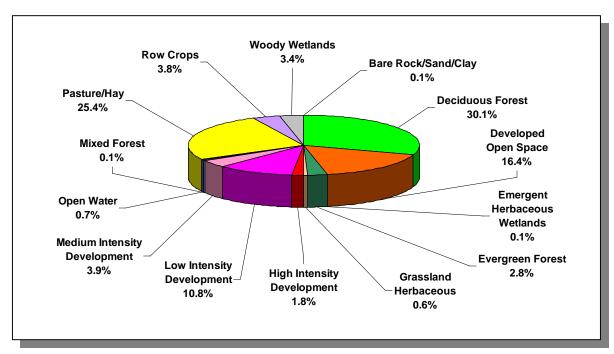


Figure 4-98. Land Use Distribution in Subwatershed 051302060407. More information is provided in Appendix IV.

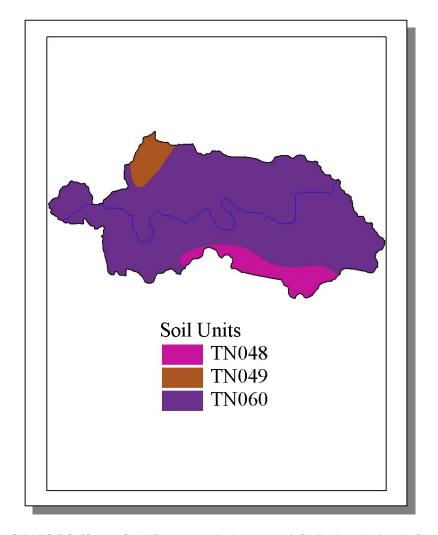


Figure 4-99. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060407.

STATSGO	PERCENT	HYDROLOGIC	PERMEABILITY	SOIL	ESTIMATED	SOIL
MAP UNIT ID	HYDRIC	GROUP	(in/hour)	pН	SOIL TEXTURE	ERODIBILITY
TN048	8.00	В	1.38	5.06	Silty Loam	0.42
TN049	0.00	С	1.30	5.94	Silty Loam	0.34
TN060	5.00	С	1.30	5.32	Silty Loam	0.39

Table 4-77. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 051302060407. The definition of "Hydrologic Group" is provided in Appendix IV.

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	COUNTY POPULATION					IATED PO N WATER	PULATION SHED	
County	1990	1997	2000	Portion of Watershed (%)	1990	1997	2000	% Change (1990-2000)
Montgomery	100,498	124,369	134,768	5.04	5,067	6,271	6,795	34.1

Table 4-78. Population Estimates in Subwatershed 051302060407.

			NUMBER OF HOUSING UNITS				
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other	
Clarksville	Montgomery	75,494	27,642	23,610	3,956	76	

Table 4-79. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 051302060407.

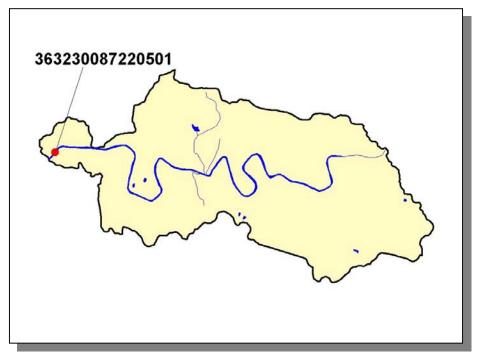


Figure 4-100. Location of Historical Streamflow Data Collection Sites in Subwatershed 051302060407. More information is provided in Appendix IV.

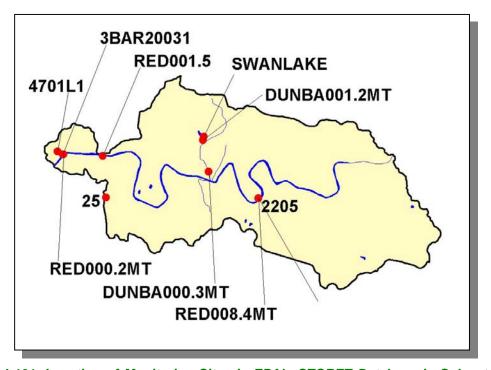


Figure 4-101. Location of Monitoring Sites in EPA's STORET Database in Subwatershed 051302060407. More information, including site names and locations, and station numbers for sites located in the watershed outside of Tennessee, is provided in Appendix IV.

4.2.C.vii.a. Point Source Contributions.

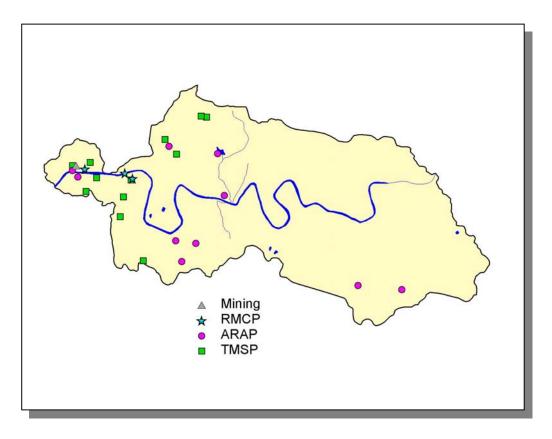


Figure 4-102. Location of Permits Issued in Subwatershed 051302060407. More information, including the names of facilities, is provided in Appendix IV.



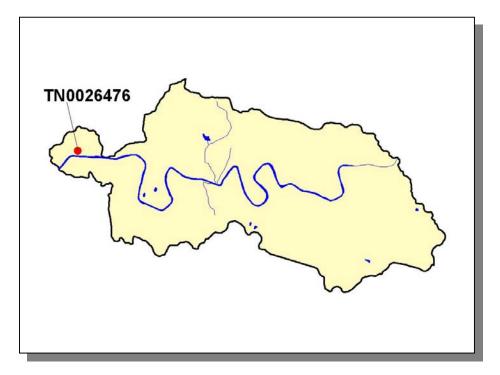


Figure 4-103. Location of Active Mining Sites in Subwatershed 051302060407. More information, including the names of mining operations, is provided in Appendix IV.

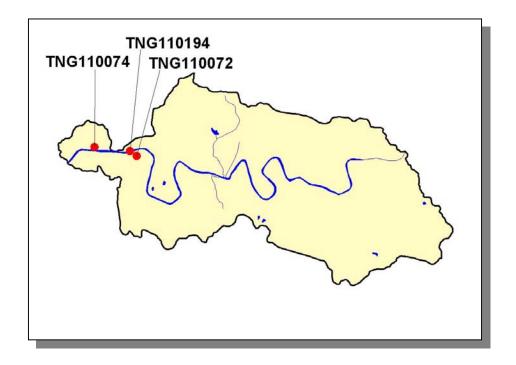


Figure 4-104. Location of Ready Mix Concrete Plants (RMCP) in Subwatershed 051302060407. More information is provided in Appendix IV.

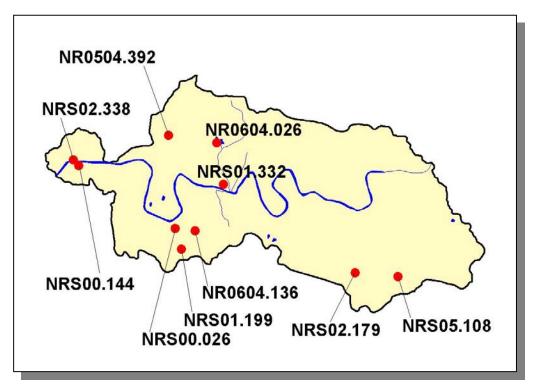


Figure 4-105. Location of Aquatic Resource Alteration Permit (ARAP) Sites (Individual Permits) in Subwatershed 051302060407. More information is provided in Appendix IV.

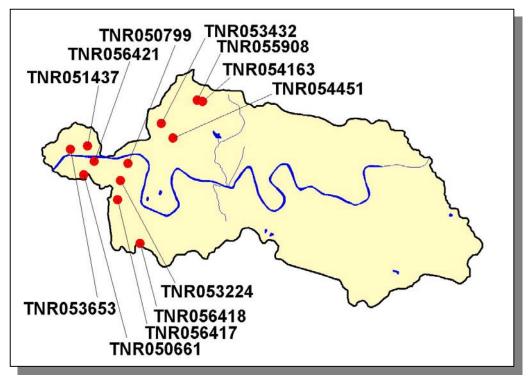


Figure 4-106. Location of TMSP Sites in Subwatershed 051302060407. More information, including the names of facilities, is provided in Appendix IV.

4.2.C.vii.b. Nonpoint Source Contributions.

LIVESTOCK COUNTS										
Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep										
873	1,683	41	<5	77	6					

Table 4-80. Summary of Livestock Count Estimates in Subwatershed 051302060407. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

LIVESTOCK COUNTS										
County Beef Cow Cattle Milk Cow Chickens (Layers) Hogs Sheep										
Montgomery	16,051	30,959	760	913	1,408	107				

Table 4-81. Summary of Livestock Count Estimates in Montgomery County. According to the 1997 Census of Agriculture (http://www.nass.usda.gov/census/), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older.

	INVENTORY		REMOVAL RATE	
County	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Montgomery				

Table 4-82. Forest Acreage and Annual Removal Rates (1987-1994) in Montgomery County.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.45
Grass (Hayland)	0.29
Legumes, Grass (Hayland)	0.40
Grass, Forbs, Legumes (Mixed Pasture)	0.55
Corn (Row Crops)	8.04
Soybeans (Row Crops)	4.26
Tobacco (Row Crops)	22.25
Conservation Reserve Program Lands	0.41
Farmsteads and Ranch Headquarters	0.04

Table 4-83. Annual Estimated Total Soil Loss in Subwatershed 051302060407.